Application No. 09/980,111
Amendment Under 37 C.F.R. § 1.116(b) dated August 31, 2006
Response to Final Office Action mailed June 1, 2006

This listing of claims will replace all prior versions, and listings, of claims in the application:

<u>Listing of Claims</u>:

Claims 1-24 (Canceled).

Claim 25 (Previously Presented): A distributed printing control apparatus that controls distributed printing, comprising:

a printer specification module that specifies multiple printers as destinations of distribution;

a distributive output module that outputs print data, which is an object to be printed, to the multiple printers specified by said printer specification module in a distributive manner;

a condition setting module that causes a data input box for setting a predetermined condition relating to a printing performance of each printer to be displayed on a display device, receives input data into the data input box from an input device, and sets the predetermined condition based on the input data;

a printer performance information collection module that collects performance information with regard to the predetermined condition from each of the multiple printers specified by said printer specification module; and

a data input restriction module that restricts the input data in the data input box according to the performance information of each printer collected by said printer performance information collection module, said data input restriction module specifying a set of performance information, which includes all the performance information of the respective printers collected by said printer performance information collection module, and restricting the input data in the data input box within a range of the specified set of performance information.

Claim 26 (Canceled).

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Claim 27 (Original): A distributed printing control apparatus in accordance with claim 25, wherein said data input restriction module specifies a set of common performance information, which is common to all the performance information of the respective printers collected by said printer performance information collection module, and restricts the input data in the data input box within a range of the specified set of common performance information.

Claim 28 (Original): A distributed printing control apparatus in accordance with claim 25, wherein said data input restriction module comprises:

a mode changeover module that selectively changes over a working mode between a first mode and a second mode, the first mode specifying a set of performance information, which includes all the performance information of the respective printers collected by said printer performance information collection module, and restricting the input data in the data input box within a range of the specified set of performance information, the second mode specifying a set of common performance information, which is common to all the performance information of the respective printers collected by said printer performance information collection module, and restricting the input data in the data input box within a range of the specified set of common performance information.

Claim 29 (Original): A distributed printing control apparatus in accordance with claim 28, wherein said mode changeover module comprises:

a module that displays a switch for the mode changeover on said display device, receives input data for operating the switch from said input device, and gives an instruction to change over the working mode based on the input data.

Claim 30 (Previously Presented): A distributed printing control apparatus in accordance with claim 25, wherein said condition setting module displays an option display box showing options possibly input in the data input box, together with the data input box, and sets one option selected among the options and specified from said input device as the predetermined condition, and

said data input restriction module prohibits at least part of the options included in the option display box from being specified from said input device, so as to restrict the input data in the data input box.

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Claim 31 (Previously Presented): A distributed printing control apparatus in accordance with claim 25, said distributed printing control apparatus further comprising:

a group mapping module that maps a plurality of printers to each group,

wherein said printer specification module specifies the multiple printers by a unit of group mapped by said group mapping module.

Claim 32 (Previously Presented): A distributed printing control apparatus in accordance with claim 25, wherein said printer specification module comprises a name display control module that displays names assigned to the specified multiple printers on said display device.

Claim 33 (Original): A distributed printing control apparatus in accordance with claim 32, wherein said printer specification module comprises an input control module that displays switches, which correspond to the respective printer names displayed by said name display control module and are operated to exclude the corresponding printers from the destinations of distribution, and receives operation data of the switches from said input device, and

said distributive output module comprises an output resource exclusion module that excludes a printer, which is determined that the corresponding switch has been operated based on the operation data received by said input control module, from an output resource of the print data.

Claim 34 (Previously Presented): A distributed printing control apparatus in accordance with claim 25, wherein said printer specification module comprises:

a priority order specification module that specifies an order of priority allocated to the specified multiple printers, and

said distributive output module carries out the distributive output by taking into account the order of priority specified by said priority order specification module.

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Claim 35 (Previously Presented): A distributed printing control apparatus in accordance with claim 25, said distributed printing control apparatus further comprising:

a performance decision module that determines whether or not each of the multiple printers specified by said printer specification module has a printing performance represented by the predetermined condition set by said condition setting module,

wherein said distributive output module comprises an output resource exclusion module that excludes a printer, which has been determined by said performance decision module not to have the printing performance, from an output resource of the print data.

Claim 36 (Original): A distributed printing control apparatus in accordance with claim 35, wherein said printer specification module comprises a name display control module that displays names of the specified multiple printers on said display device, and

said name display control module comprises a module that prohibits distinctive display of the name of the printer, which is excluded by said output resource exclusion module.

Claim 37 (Previously Presented): A distributed printing control apparatus in accordance with claim 25, wherein said printer performance information collection module receives information regarding performances of the multiple printers from printer drivers provided for respective types of the multiple printers and collects the performance information with regard to the predetermined condition from the received information.

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Claim 38 (Previously Presented): A distributed printing control method that controls distributed printing and comprises the steps of:

(a) specifying multiple printers as destinations of distribution;

(b) outputting print data, which is an object to be printed, to the multiple printers specified in said step (a) in a distributive manner,

(c) causing a data input box for setting a predetermined condition relating to a printing performance of each printer to be displayed on a display device, receiving input data into the data input box from an input device, and setting the predetermined condition based on the input data;

(d) collecting performance information with regard to the predetermined condition from each of the multiple printers specified in said step (a); and

(e) restricting the input data in the data input box according to the performance information of each printer collected in said step (d),

wherein said step (e) specifies a set of performance information, which includes all the performance information of the respective printers collected in said step (d), and restricts the input data in the data input box within a range of the specified set of performance information.

Claim 39 (Canceled).

Claim 40 (Original): A distributed printing control method in accordance with claim 38, wherein said step (e) specifies a set of common performance information, which is common to all the performance information of the respective printers collected in said step (d), and restricts the input data in the data input box within a range of the specified set of common performance information.

Claim 41 (Previously Presented): A distributed printing control method that specifies multiple printers as destinations of distribution and outputs print data, which is an object to be printed, to the specified multiple printers in a distributive manner, thus controlling distributed printing,

said distributed printing control method comprising steps corresponding to the modules included in a distributed printing control apparatus in accordance with claim 28.

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Claim 42 (Previously Presented): A computer readable recording medium in which a computer program for controlling distributed printing is recorded, said computer program including program instructions for causing a computer to perform the functions of:

(a) specifying multiple printers as destinations of distribution;

(b) outputting print data, which is an object to be printed, to the multiple printers specified by said function (a) in a distributive manner,

(c) causing a data input box for setting a predetermined condition relating to a printing performance of each printer to be displayed on a display device, receiving input data into the data input box from an input device, and setting the predetermined condition based on the input data;

(d) collecting performance information with regard to the predetermined condition from each of the multiple printers specified by said function (a); and

(e) restricting the input data in the data input box according to the performance information of each printer collected by said function (d),

wherein said function (e) specifies a set of performance information, which includes all the performance information of the respective printers collected by said function (d), and restricts the input data in the data input box within a range of the specified set of performance information.

Claim 43 (Canceled).

Claim 44 (Original): A computer readable recording medium in accordance with claim 42, wherein said function (e) specifies a set of common performance information, which is common to all the performance information of the respective printers collected by said function (d), and restricts the input data in the data input box within a range of the specified set of common performance information.

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Claim 45 (Original): A computer readable recording medium in accordance with claim 42, wherein said function (e) comprises the function of:

(e-1) selectively changing over a working mode between a first mode and a second mode, the first mode specifying a set of performance information, which includes all the performance information of the respective printers collected by said function (d), and restricting the input data in the data input box within a range of the specified set of performance information, the second mode specifying a set of common performance information, which is common to all the performance information of the respective printers collected by said function (d), and restricting the input data in the data input box within a range of the specified set of common performance information.

Claim 46 (Original): A computer readable recording medium in accordance with claim 45, wherein said function (e-1) comprises the function of:

displaying a switch for the mode changeover on said display device, receiving input data for operating the switch from said input device, and giving an instruction to change over the working mode based on the input data.

Claim 47 (Previously Presented): A computer readable recording medium in accordance with claim 42, wherein said function (c) displays an option display box showing options possibly input in the data input box, together with the data input box, and sets one option selected among the options and specified from said input device as the predetermined condition, and

said function (e) prohibits at least part of the options included in the option display box from being specified from said input device, so as to restrict the input data in the data input box.

Claim 48 (Previously Presented): A computer readable recording medium in accordance with claim 42, wherein said computer program further causes the computer to attain the function of:

(f) mapping a plurality of printers to each group,

wherein said function (a) specifies the multiple printers by a unit of group mapped by said function (f).

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Claim 49 (Previously Presented): A computer readable recording medium in accordance with claim 42, wherein said function (a) comprises the function of:

(a-1) displaying names assigned to the specified multiple printers on said display device.

Claim 50 (Original): A computer readable recording medium in accordance with claim 49, wherein said function (a) comprises the function of:

(a-2) displaying switches, which correspond to the respective printer names displayed by said function (a-1) and are operated to exclude the corresponding printers from the destinations of distribution, and receiving operation data of the switches from said input device, and

said function (b) comprises the function of:

excluding a printer, which is determined that the corresponding switch has been operated based on the operation data received by said function (a-2), from an output resource of the print data.

Claim 51 (Previously Presented): A computer readable recording medium in accordance with claim 50, wherein said function (a) comprises the function of:

(a-3) specifying an order of priority allocated to the specified multiple printers, and

said function (b) carries out the distributive output by taking into account the order of priority specified by said function (a-3).

Claim 52 (Previously Presented): A computer readable recording medium in accordance with claim 42, wherein said computer program further causes the computer to attain the function of:

(g) determining whether or not each of the multiple printers specified by said printer specification function has a printing performance represented by the predetermined condition set by said function (c),

said function (b) comprises the function of:

excluding a printer, which has been determined by said function (g) not to have the printing performance, from an output resource of the print data.

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Claim 53 (Original): A computer readable recording medium in accordance with claim 52, wherein said function (a) comprises the function of:

> (h) displaying names of the specified multiple printers on said display device, and
>
> said function (h) comprises the function of:
>
> prohibiting distinctive display of the name of the printer, which is excluded by said

output resource exclusion function.

Claim 54 (Previously Presented): A computer readable recording medium in accordance with claim 42, wherein said function (d) receives information regarding performances of the multiple printers from printer drivers provided for respective types of the multiple printers and collects the performance information with regard to the predetermined condition from the received information.

Claim 55 (Canceled).

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Claim 56 (Original): A distributed printing control apparatus, comprising:

a first setting module that specifies multiple printers as destinations of distribution;

a second setting module that sets paper information with regard to paper used for printing; and

a distribution control module that processes externally input print data based on the specification by said first setting module and the setting by said second setting module and outputs plural divisions of the print data, which satisfy the paper information, to the multiple printers specified as the destinations of distribution,

said distributed printing control apparatus supplying the plural divisions of the print data output from said distribution control module to the multiple printers via printer drivers provided for the respective printers,

said distributed printing control apparatus further comprising:

an information input module that receives information with regard to an unprintable area included in a paper area in each of the multiple printers specified by said first setting module; and

a printable area computation module that computes a printable area in the paper area, which is printable with any of the multiple printers, from the information of the respective printers received by said information input module,

wherein said distribution control module comprises:

an area fitting module that causes the plural divisions of the print data to be fit to the printable area computed by said printable area computation module.

Claim 57 (Original): A distributed printing control apparatus in accordance with claim 56, wherein said area fitting module comprises a margin correction module that corrects margins on each sheet of paper defined by the print data, based on the printable area computed by said printable area computation module.

Claim 58 (Previously Presented): A distributed printing control apparatus in accordance with claim 56, wherein said information input module receives the information from the printer drivers provided for the respective printers.

Claim 59 (Previously Presented): A distributed printing control apparatus in accordance with claim 56, wherein the multiple printers are connected via a computer network.

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Claim 60 (Original): A distributed printing control method, comprising the steps of:

(a) specifying multiple printers as destinations of distribution;

(b) setting paper information with regard to paper used for printing; and

(c) processing externally input print data based on the specification by said step (a) and the setting by said step (b) and outputting plural divisions of the print data, which satisfy the paper information, to the multiple printers specified as the destinations of distribution,

said distributed printing control method supplying the plural divisions of the print data output in said step (c) to the multiple printers via printer drivers provided for the respective printers,

said distributed printing control method further comprising the steps of:

(d) receiving information with regard to an unprintable area included in a paper area in each of the multiple printers specified by said step (a); and

(e) computing a printable area in the paper area, which is printable with any of the multiple printers, from the information of the respective printers received in said step (d),

wherein said step (c) comprises the step of:

(c1) causing the plural divisions of the print data to be fit to the printable area computed in said step (e).

Claim 61 (Original): A distributed printing control method in accordance with claim 60, wherein said step (c1) comprises the step of:

correcting margins on each sheet of paper defined by the print data, based on the printable area computed in said step (e).

Claim 62 (Previously Presented): A distributed printing control method in accordance with claim 60, wherein said step (b) receives the information from the printer drivers provided for the respective printers.

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Claim 63 (Previously Presented): A computer readable recording medium in which a computer program is recorded, said computer program including program instructions for causing a computer to perform the functions of:

(a) specifying multiple printers as destinations of distribution;

(b) setting paper information with regard to paper used for printing; and

(c) processing externally input print data based on the specification by said function (a) and the setting by said function (b) and outputting plural divisions of the print data, which satisfy the paper information, to the multiple printers specified as the destinations of distribution,

wherein the plural divisions of the print data output by said function (c) are supplied to the multiple printers via printer drivers provided for the respective printers,

said computer program further including program instructions for causing the computer to perform the functions of:

(d) receiving information with regard to an unprintable area included in a paper area in each of the multiple printers specified by said function (a); and

(e) computing a printable area in the paper area, which is printable with any of the multiple printers, from the information of the respective printers received by said function (d),

wherein said function (c) comprises the function of:

(c1) causing the plural divisions of the print data to be fit to the printable area computed in said step (e).

Claim 64 (Original): A computer readable recording medium in accordance with claim 63, wherein said function (c1) comprises the function of:

correcting margins on each sheet of paper defined by the print data, based on the printable area computed by said function (e).

Claim 65 (Previously Presented): A computer readable recording medium in accordance with claim 63, wherein said function (b) receives the information from the printer drivers provided for the respective printers.

Claim 66 (Canceled).